

PATENT ABSTRACTS OF JAPAN

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(54) DISPLAY DEVICE

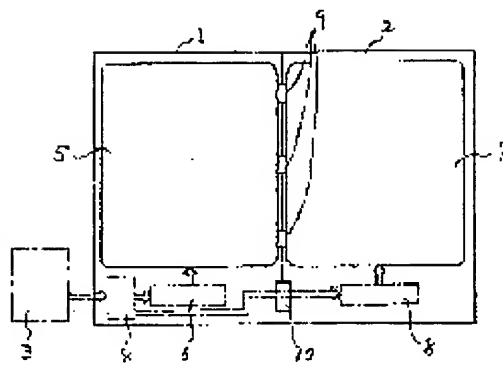
(57)Abstract:

PROBLEM TO BE SOLVED: To provide a display device excellent in carrying property and easy to be viewed by a user.

SOLUTION: This device is provided with display control means 4, 6 and 8 for displaying one large screen altogether by making respective screens displayed by plural displays 5 and 7

cooperate with each other by continuously connecting the displays 5 and 7 so that the respective display screens thereof face in an almost identical direction. Then, the whole size of the device in use is set to be compact so that it can be used by being supported by only one hand of the user. Besides, the shape of the whole device in use is formed so that the plane area of the right half and the plane area of the left half of a central line being almost in parallel with a direction that the line-of-sight of the user is extended when it is viewed by the user

become almost symmetric with the central line as a center and the thickness of the right half part and the left half part of the central line become almost equal as hardware.



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JAPANESE

[JP,10-288952,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE INVENTION
TECHNICAL PROBLEM MEANS EXAMPLE DESCRIPTION OF DRAWINGS DRAWINGS
CORRECTION OR AMENDMENT

[Translation done.]

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TECHNICAL FIELD

[Industrial Application] This invention relates to the display which is applied to the display (display) which reads information from information storage media, such as CD-ROM (read-only memory which used the compact disk), FD (floppy disk), a magneto-optic disk, an IC card, and an optical card, and can be displayed on a display screen, especially can offer a legible, comparatively big display screen at the time of an activity at the time of carrying though it is compact size convenient to carry, or can offer two or more display screens at it at the time of an activity.

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PRIOR ART

[Description of the Prior Art] Pocket mold electronic information machines and equipment, such as the electronic information machines and equipment of portable compact size, for example, a CD-ROM playback dedicated device, (for example, trade name of Sony Corp. "Data Discman"), VTR (video tape recorder) and TV (television), a notebook personal computer (personal computer) of the A4 version file size, and an electronic notebook, are produced commercially one after another with progress of computerization in recent years. [0003] In these pocket mold electronic information machines and equipment, the thin display which used the LCD (liquid crystal display) panel etc. as a display panel for the output of the display screen is used. And generally in such information machines and equipment, this thin display and input units of each other, such as a keyboard, are connected free [bending] especially free [folding] by the well-known means. And as for a user, it is general to carry at the time of carrying, where said thin display and input device are folded up, to open wide these displays and input devices of each other at the time of an activity, and to use it by changing into a condition.

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EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, the following effectiveness comes to be acquired as explained above.

As shown in the claim, in this invention (1) The magnitude at the whole time of the activity of the (c) display The configuration at the whole time of the activity of the (d) display constituted by small size which is supported and used only by a user's one hand So that the area of the flat surface in the right half of said center line when seeing from a user centering on a center line almost parallel to the direction where a user's look is prolonged, and the area of the flat surface of this left half may serve as bilateral symmetry mostly as hardware It is constituted, and the configuration at the whole time of the activity of the (e) display has the configuration of being constituted so that it may become almost equal as hardware influencing the thickness dimension in the right half of said center line and the thickness dimension of this left half. That is, centering on said center line, as hardware, the right half and the left half are constituted so that right and left may become almost equal [the flat surface or thickness dimension], and moreover, this inventions are consisted of by small [which a user tends to support only single hand]. Therefore, in this invention, since the whole display balances uniformly [right and left] focusing on the part (it supported) which this user had when [in which a user has a display by this invention only single hand focusing on said center line or the part of that near (it supports)] it is made like, it becomes very easy for a user to support a display only single hand. At this point, the foldable display is indicated at JP,62-92025,A (applicant: canon) and JP,63-118186,A (semi-conductor energy lab). However, as shown in those drawings, the straight thickness dimensions of a right half and a left half centering on a center line differ greatly mutually, and the display which these official reports indicate is that, and even if it has the part of the straight center line, it cannot be stably supported single hand easily for a user. At this point, these official reports and this inventions differ from each other greatly. Therefore, effectiveness like this invention, a technical problem, and technical thought are not indicated at all by the display of these official reports, and the suggestion is not in it, either. Moreover, in JP,1-282587,A (applicant: Kimiko Ikegami), the bendable display with which right and left were separated uniformly is indicated. However, as shown in that drawing 1 and Figs. 3, 4, and 6, "direction left mutually" bending of the display screen is free for that bends with the display which this official report indicates, and it has become equal influencing focusing on the part. Therefore, effectiveness like this invention, a technical problem, and technical thought are not indicated at all by the display of this official report, and that suggestion is not in it, either.

[0039] As shown in the claim, according to this invention, (2) The (h) display When it is a fixed means for fixing the aforementioned right half and aforementioned left half which were bent centering on said center line at an angle of arbitration and an aforementioned right half and an aforementioned left half are bent in the direction which approaches mutually centering on said center line, a **** user to whom a user tends to support the whole display by the one hand -- the one hand top -- laying -- ** -- both screen in the right half of the above [a **** user / like], and screen of a left half at an angle of the arbitration of within the limits from 120 degrees which is the range of an include angle which is simultaneously legible to 170 degrees The configuration of having the fixed means for fixing is adopted. That is, in this invention, it is possible to fix the right half and left half centering on the aforementioned center line at an angle of the arbitration by which the above was bent (contained in addition, in "immobilization" by this invention, when carrying out semipermanent according to frictional force etc., or when it fixes temporarily) (namely, after for the cross section to have become a letter of the abbreviation for V characters). Therefore, when a user supports the whole display by the one hand in this invention () Or it is a user's having focusing on the center line with which the above's was bent, or the part (delta part) of the near, when a user's lays the whole display on one hand, and supporting (). Or what is placed

on the "palm" of one hand focusing on the center line with which the above was bent, or the part (delta part) of the near enables it very easily to support said whole display stably. Namely, the thing for which a plate-like body is generally supported only single hand () Or the body with which the cross section is a letter of the abbreviation for V characters is supported [what a plate-like body is laid for on the palm of one hand, and] only single hand (). or the body with which the cross section is a letter of the abbreviation for V characters -- the palm top of one hand -- laying -- if it compares, the experience top of a theory top of latter one's being alike and easy is also clear. For example, by the former plate-like body, since there is "no clue" when having when had single hand, the grip beyond the need is needed. On the other hand, by the body of the latter letter of the abbreviation for V characters, since it becomes a "clue" in case the delta part of the above letter of the abbreviation for V characters has, if it has this part, also with small grip, it is stabilized easily and can continue having. Moreover, for example, by the former plate-like body, since it is plate-like and easy to keep a palm top as ZURUZURU ** even if it is going to carry it on the "palm" of one hand, if it is necessary to prevent that of the ZURUZURU ****, and to put in the force beyond the need, and to centralize a nerve beyond the need, consequently is going to continue carrying out long duration support, it will become the cause of too much fatigue. On the other hand, it is that from which the "palm" of human being's one hand itself is "a cross section is a letter of the abbreviation for V characters" by the body of the latter letter of the abbreviation for V characters (the cross-section configuration of one hand in the condition of supporting objects, such as a book and a document, single hand is a letter of the abbreviation for V characters). The body of the letter of the abbreviation for V characters tends to be well settled with SUPPORI into "a palm (a cross section is a letter of the abbreviation for V characters)" of human being's one hand. Therefore, the body of the letter of the abbreviation for V characters being the very small force, and laying it for human being, can be continued on the "palm" of the one hand easily and stably. As mentioned above, according to this invention, it becomes very easy for a user to lay the whole display on the palm of to support single hand or one hand with said fixed means. Therefore, ** with while according to this invention the user having stood in various locations, such as the inside of electric commuter cars, and on the street, and a display being supported single hand, or very easy [laying a display on the palm of one hand] continuing using it

[0040] As shown in the claim, according to this invention, (3) The configuration of the display screen at the time of the activity of the (f) display the above -- "-- from said center line in one big screen", by uniting, so that it may become bilateral symmetry mostly when the area of the screen of a right half and a configuration, and the area and the configuration of a screen of this left half see from a user The part equivalent to said center line of the (g) display constituted Simultaneously both screen in the right half of the above [a user], and screen of a left half so that it may be legible, so that a user may tend to support the whole display by the one hand, or so that it may be easy to lay a user on the one hand Bending is free in the direction in which the screen of the aforementioned right half and the screen of a left half approach mutually centering on said center line. the (h) display When it is a fixed means for fixing the aforementioned right half and aforementioned left half which were bent centering on said center line at an angle of arbitration and an aforementioned right half and an aforementioned left half are bent in the direction which approaches mutually centering on said center line, a **** user to whom a user tends to support the whole display by the one hand -- the one hand top -- laying -- ** -- both screen in the right half of the above [a **** user / like], and screen of a left half at an angle of the arbitration of within the limits from 120 degrees which is the range of an include angle which is simultaneously legible to 170 degrees The configuration of having the fixed means for fixing is adopted. therefore, according to this invention, the user was constituted by said each display -- "-- since the whole screen is divided uniformly [right and left] centering on said center line when uniting and seeing one big screen", a screen very legible for a user is obtained. that is, when seeing a document and an image, in order to gaze by the eye (both eyes) of two right and left in human being's optic nerve generally, from the center line (location of both eyes), the direction it has become equal influencing boils the object to see markedly, and it has the property to be legible. Therefore, it is arranged so that it may become equal also by paper media, such as a conventional book and a conventional newspaper, and a journal, influencing a part for the display centering on a center line (straight line) surely almost parallel to the direction in which a user's view (look) extends. Although too much addition will be given to human being's optic nerve (***** etc. is natural for an optic nerve) and fatigue of an optic nerve will be given beyond the need if the alphabetic character or image which were displayed are not arranged uniformly [right and left] focusing on the line (center line) which the above bends, in this invention, such inconvenience is effectively avoidable. moreover -- since said center line "can be fixed" in the condition of having bent at the include angle of arbitration as a core, by the configuration of not only this but the above (h) at this invention --

for a general user -- the above -- "-- it unites and whole one big screen" is "still more legible." That is, generally, since human being looks at an alphabetic character and an image by two eyes (both eyes) of the right and left, it is "ideal" that the alphabetic character which is the object to see, and an image are the equal distances altogether with said two eyes (location of both eyes). From this viewpoint, even when seeing a book and a document, on the body of the shape of radii centering on the both eyes of said right and left it is "ideal" that the alphabetic character and the image are displayed (when seeing actually the information written to the paper of big sizes, such as A3, as for us human beings, all those screens become the equal distance from their both eyes -- as -- it carries out, and bends and sees to ** and an approximate circle arc in many cases). however, the thing which it changes into "the condition that a few was bent by one half" a core [the center line], and is actually seen for the alphabetic character displayed on the paper bent centering on the center line, or an image with a book, a newspaper, or a journal since it (make it the shape of radii) is technically difficult -- so to speak

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, although the size of a display unit etc. was so good that it was small in the conventional pocket mold electronic information machines and equipment when pursuing the facilities of a cellular phone, there was a problem of the antinomy that it is necessary to enlarge in extent which does not look at the size of a display screen, and considering facilities in case another side and a user use it is not if it is ****.

[0005] This invention was made paying attention to the technical problem of the antinomy of such a conventional technique, fills simultaneously two requests called the conspicuousness (a certain amount of reservation of the magnitude of a screen) of the facilities (miniaturization) of a cellular phone, and the display screen at the time of an activity, and aims at offering the display unit which can solve the problem of the aforementioned antinomy at once. Moreover, this invention aims at offering the display which can be seen while a user supports easily single hand in electric commuter cars etc. while realizing the miniaturization at the time of carrying and it raises the facilities of an activity (check by looking) of a user by seeing "one big screen" which consists of two or more display screens simultaneously at the time of an activity.

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MEANS

[Means for Solving the Problem] The display concerning this invention is a display which has the description of following (a) - (h).

(a) So that each screen which each displays [two or more displays which output a screen, respectively] may go in the almost same direction By controlling the display on two or more displays of (b) above connected continuously the display screen of two or more aforementioned displays -- mutual -- collaborating -- "-- it has the display-control means for uniting and displaying one big screen" -- (c) the configuration at the whole time of the activity of the (d) display constituted by small size which is used for the magnitude at the whole time of the activity of a display, being supported only by a user's one hand So that the area of the flat surface in the right half of said center line when seeing from a user centering on a center line almost parallel to the direction where a user's look is prolonged, and the area of the flat surface of this left half may serve as bilateral symmetry mostly as hardware The configuration at the whole time of the activity of the (e) display constituted The configuration of the display screen at the time of the activity of the (f) display constituted so that it may become almost equal as hardware influencing the thickness dimension in the right half of said center line and the thickness dimension of this left half the above -- "-- from said center line in one big screen", by uniting, so that it may become bilateral symmetry mostly when the area of the screen of a right half and a configuration, and the area and the configuration of a screen of this left half see from a user The part equivalent to said center line of the (g) display constituted Simultaneously both screen in the right half of the above [a user], and screen of a left half so that it may be legible, so that a user may tend to support the whole display by the one hand, or so that it may be easy to lay a user on the one hand (h) bendable in the direction in which the screen of the aforementioned right half and the screen of a left half approach mutually centering on said center line -- a display -- When it is a fixed means for fixing the aforementioned right half and aforementioned left half which were bent centering on said center line at an angle of arbitration and an aforementioned right half and an aforementioned left half are bent in the direction which approaches mutually centering on said center line, a **** user to whom a user tends to support the whole display by the one hand -- the one hand top -- laying -- ** -- both screen in the right half of the above [a **** user / like], and screen of a left half at an angle of the arbitration of within the limits from 120 degrees which is the range of an include angle which is simultaneously legible to 170 degrees It has the fixed means for fixing.

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EXAMPLE

[Example]

One example of this invention is explained with reference to a below 1st example . drawing. Drawing 1 is the outline front view concerning the 1st example of this invention showing a CD-ROM playback dedicated device. In addition, only the part related to this invention is shown in this drawing 1 , and the key for inputting the keyword for the key for directing the key for putting in a well-known part, for example, a power source, conventionally, playback, a halt, a rapid traverse, rewinding, retrieval, etc. and retrieval etc. is omitted to it.

[0008] In drawing 1 , a sign 1 is a frame (housing). In this frame 1, the LCD driving gear 6, a power source, etc. which drive this LCD in response to the CD-ROM driving gear 3, the signal processor 4 which processes the signal from this CD-ROM driving gear 3, LCD (liquid crystal display), and the signal from said signal processor are contained. Moreover, this frame 1 is equipped with the LCD panel 5 (below, a sign 5 is used also as what shows a LCD screen) which outputs a LCD screen by said LCD. In addition, in drawing 1 , although the expedient top CD-ROM driving gear 3 of a graphic display is indicated on the outside of a frame 1, it is contained by the background of LCD which outputs the LCD screen 5 in a frame 1 actually.

[0009] Moreover, it has the LCD panel 7 (below, this sign 7 is used, also in order to show a screen) by which the LCD driving gear 8 for driving LCD and this LCD etc. is contained, and a sign 2 also outputs a LCD screen by this LCD into this frame 2 at a frame (housing).

[0010] Moreover, in this example, an aforementioned frame 1 and an aforementioned frame 2 are connected by the hinge 9 with the comparatively small edges, and the comparatively large hinge 10 free [bending] like a graphic display (connection). Thereby, a frame 1 and a frame 2 can be further bent now from the spread condition of (a) of drawing 2 free to the folding condition of ** (c) through the half-spread condition of ** (b), as shown in drawing 2 which is the top view of this example. Moreover, conversely, it can also change into the condition of ** (a) through the condition of ** (b) from the condition of ** (c).

[0011] moreover, the frictional force between the members which constitute hinges 9 and 10 from this example -- between a frame 1 and frames 2 -- the include angle of arbitration -- temporary -- immobilization -- or semipermanent can be carried out and it can be used now in the condition (for example, condition of (b) of drawing 2) of having fixed temporarily. Moreover, since such immobilization is what is only depended on frictional force, a user can change the include angle freely by applying the force more than the specified quantity. In addition, about said hinges 9 and 10 in this example, a well-known thing can be used conventionally.

[0012] Moreover, by devising the structure of hinges 9 and 10 by the well-known approach conventionally (a stopper being formed), you may constitute from this example so that the include angle between two frames 1 and 2 may require a stopper and can be fixed from 180 degrees before 90 degrees (for example, five steps of include angles).

[0013] Moreover, in this example, as shown in drawing 1 , spacing of the LCD screen 5 and the edge on the right-hand side of [graphic display] a frame 1 and spacing of the LCD screen 2 and the edge on the left-hand side of [graphic display] a frame 2 are very small. And the comparatively small thing is being used for the hinge 9 which connects between the edges which counter two LCD 5 and 7 among the hinges which connect a frame 1 and a frame 2. Therefore, in this example, spacing between the LCD screens 5 and 7 is very small. Therefore, for a user, most spacing between the LCD screens 5 and 7 is what can be disregarded, and for a user, these two LCD screens 5 and 7 can be put together, and it can be seen now as one big screen.

[0014] In addition, the signal line passing through the inside of the hinge (fastener) 10 with comparatively large LCD driving gear 8 in said frame 2 and signal processor 4 in a frame 1 connects (the configuration of

connecting a LCD driving gear and a signal processor through still such a signal line passing through the inside of a hinge is common knowledge in a commercial notebook personal computer etc.). Therefore, since this regenerative signal is sent to the both sides of two LCD driving gears 6 and 8 from a signal processor 4 when reproducing CD-ROM of one sheet, two LCD screens 5 and 7 collaborate mutually, and can display one screen. that is, -- for example, when it is going to investigate the fish a "sea bream" using CD-ROM which recorded the encyclopedia with a user, this sea bream is searched, and when displaying the photograph of a sea bream on the LCD screens 5 and 7, the image of the photograph of one sea bream will be greatly displayed ranging over both LCD screens 5 and 7.

[0015] Moreover, data, such as not only an image like the photograph of the above-mentioned sea bream but an alphabetic character, are sufficient as the information which can be displayed with the LCD screens 5 and 7 of this example. For example, while making CD-ROM memorize each alphabetic data for 1 page of books, such as a book, as one information block and displaying the information block of a certain alphabetic data for 1 page on the LCD screen 5, you may make it display the information block of the alphabetic data for 1 page of the following page on the LCD screen 7. If it carries out like this, a user can use it with the same sensation as opening a book wide, changing this CD-ROM regenerative apparatus into a condition, and reading a book.

[0016] As it drives to this example, respectively with the LCD driving gears 6 and 8 by which **** and two LCD screens 5 and 7 are inputted into the signal from one signal processor 4, while these two LCD screens 5 and 7 enable it to form one big screen in all in it as mentioned above, the frames 1 and 2 of each other which include two LCD screens 5 and 7, respectively are connected free [bending].

[0017] Therefore, when using this CD-ROM regenerative apparatus, as shown in drawing 1 and drawing 2 (a), a user can change two frames 1 and 2 into a facing condition, and can display information on the screen of a big area with which two screens of the LCD screens 5 and 7 were aligned.

[0018] Moreover, when using this CD-ROM regenerative apparatus single hand, a user can see [be / it / under / of electric commuter cars / setting etc.] a LCD screen, where the include angle between two frames 1 and 2 is bent at about 150 degrees, as shown in (b) of drawing 2 . Moreover, in crowded electric commuter cars, it can also be used by changing the include angle between these two frames 1 and 2 into the condition of having bent to about 120 more degrees.

[0019] Furthermore, when it is going to carry this CD-ROM regenerative apparatus at the time of outdoor migration, as shown in (c) of drawing 2 , by folding up two frames 1 and 2 and changing into a condition, a user can make it the compact size which is the abbreviation one half of the area of the transverse plane at the time of an activity as a whole, and can carry.

[0020] moreover, in this example, when said the 1st frame 1 and 2nd frame 2 are opened wide and it changes into a condition, the include angle between the screens of those both frame can fix these two frames at two predetermined include angles between 120 degrees and 180 degrees at least -- it is made like (stopper). Therefore, a user comes to be able to do the activity according to a surrounding situation, such as using it in the condition of having opened wide at the include angle of 120 degrees (equipment asking others and being troubled twisting like), on the desk of a firm in the electric commuter cars which used it and are crowded with the conditions of having opened wide at the include angle of 180 degrees.

[0021] When said the 1st frame 1 and 2nd frame 2 are opened wide and it changes into a condition, it enables it to fix these two frames according to frictional force in this example, furthermore, so that the include angle between the screens of those both frame may be fixed at an angle of the arbitration between 120 degrees and 180 degrees at least. Therefore, the fine activity which conformed to the surrounding situation further -- a user uses it in the condition of having opened wide at the include angle which is 120 degrees when using it in electric commuter cars, and holding a strap by one hand among both hands, supporting the display unit only by the hand of another side and the inside of an electric car is [it is used in the condition of having opened wide at the include angle of 150 degrees so that it may be easy to support this and] crowded -- is attained.

[0022] 2nd example ., next the CD-ROM playback dedicated device concerning the 2nd example of this invention are explained based on drawing 6 from drawing 3 .

[0023] In drawing 3 , signs 11-20 are frames (housing). ***** things (for example, it is called a frame 11, a frame 12 and a frame 12, and a frame 13 like) are mutually connected to each other free [bending] by the hinge which does not illustrate each of these frames 11-20. Moreover, the LCD driving gears 31-40 which drive LCD and this LCD are built in each of these frames 11-20, respectively. Moreover, each frames 11-20 are equipped with each LCD screens (or the LCD panel) 21-30 which each LCD outputs.

[0024] In addition, in this drawing 3 , although each LCD screens 21-30 are illustrated as if ***** things

touched mutually, the graphic display has only become so for convenience, and, as for this, predetermined spacing exists in each other of each LCD screens 21-30 among ***** things actually. And between this predetermined spacing, the hinge (not shown) and ** by which those frames 11-20 connect the ***** edge of each other with the edge (not shown) of each frames 11-20 free [bending] exist.

[0025] Moreover, in this example, the signal processor 51 which processes the signal from the CD-ROM driving gear 50 is built in said frame 11 (although the relation of a graphic display has indicated the signal processor 51 besides a frame 11 at drawing 3 , this is actually built in the frame 11). Moreover, the signal from the CD-ROM driving gear 50 with which the exterior of the aforementioned frames 11-20 was equipped is inputted into this signal processor 51 through the well-known means of communications which used a cable or wireless. And the signal from this signal processor 51 is inputted into each LCD driving gears 31-40.

[0026] Therefore, when it changes said frames 11-20 into that spread condition that the include angle of the flat surfaces of a ***** frame turns into about 180 degrees mutually, as [show / in drawing 3 (front view) and drawing 4 (top view)], each screen of each LCD 21-30 collaborates in this 2nd example mutually, and constitutes one big screen from it. and -- for example, it is outputted by each LCD when displaying the photograph of the sea bream which retrieves the information on the fish a "sea bream" from CD-ROM, and is recorded on CD-ROM by LCD 21-30 -- it all comes out, ten screens 21-30 are put together and united, and the photograph of a sea bream is displayed into the one united big screen.

[0027] Moreover, in this 2nd example, the hinge (not shown) of each frames 11-20 which connects ***** things mutually is prepared in the location shown in each point a-i of drawing 4 , respectively. Therefore, when carrying this 2nd example, this whole CD-ROM regenerative apparatus can be made to transform into the form of an abbreviation rectangular parallelepiped convenient to carry by bending each frames 11-20 through a hinge for every aforementioned each point a-i, as shown in the top view of drawing 5 .

[0028] In addition, its merit is large when especially this 2nd example is used as a huge screen display used for an event etc. Although haulage and storage were very difficult conventionally for such a huge screen display, according to this example, it can cancel it.

[0029] 3rd example ., next drawing 6 are the top views showing the CD-ROM regenerative apparatus concerning the 3rd example of this invention. In this example, the hinge which connects each frames 11-20 is prepared in the location of each point shown in j-r of drawing 6 , respectively. Therefore, when carrying the equipment concerning this example, this whole CD-ROM regenerative apparatus can be made to transform in the shape of [convenient to carry] an approximate circle column by one by one so to speak rounding off other frames 12-20 (thing of a configuration like Caterpillar so to speak) which carry out a frame 11 inside most and stand each frames 11-20 in a row in it like drawing 6 round and round like a roll.

[0030] Based on drawing 7 , it explains portable [concerning the 4th example of 4th example ., next this invention / TV] (television). The configuration of the outside of this 4th example is almost the same as the 1st example shown in drawing 1 . That it is different is the point of having the key which adjusts the key and the amount of voice for changing the channel of the program for television, the loudspeaker, etc. instead of the key (not shown to drawing 1) which directs playback, a halt, a rapid traverse, rewinding, etc. (neither being illustrated to drawing 7). [which suited the example of this drawing 1]

[0031] That is, in drawing 7 , frame 1a and frame 2a are equipped with LCD screens 5a and 7a for TV, respectively. And the edge of such frame 1a and the edge of frame 2a are connected by Hinges 9a and 10a free [bending]. Moreover, in this example, LCD (not shown) which drives with the signal processor (not shown) which processes the TV signal from the receiver for TV (not shown) and this receiver to Frames 1a and 02a, respectively, and is sent to a LCD driving gear, the LCD driving gear (not shown) which drives LCD, and this LCD driving gear, and outputs a program to each aforementioned LCD screens 5a and 7a is built in.

[0032] Therefore, in portable [concerning this 4th example / TV], a user folds up Frames 1a and 2a at the time of carrying, can make it a compact (refer to (c) of drawing 2), and can carry. Moreover, it can view [user] and listen to two programs simultaneously by displaying the program of three channels on LCD screen 7a while a user opens this wide like drawing 7 at the time of an activity, and changes into a condition, for example, displays the program of one channel on LCD screen 5a.

[0033] Moreover, as deformation of this 4th example, only the TV signal of one program from the receiver for TV is processed with one signal processor. You may make it display one program on one big screen with which the LCD screens 5a and 7a were aligned by supplying the processed signal to the LCD driving gear in which it was built by each of each frames 1a and 2a. If it carries out like this, since one oblong screen (panorama) with which each LCD screens 5a and 7a were aligned is realizable, oblong images, such as a film program, can also

be displayed as they are.

[0034] Although the example of this invention has been explained above, as for this invention, it is needless to say that it is not what is limited to these examples. This invention should be understood to be a thing also including a configuration which is described below. Although the CD-ROM playback dedicated device is indicated in the example, it is applicable also to the electronic equipment containing the input unit for a recording device and record in this invention like the record regenerative apparatus which used VTR, the magneto-optic-disk record regenerative apparatus, and the IC card, or a personal computer. Moreover, it is applicable not only to a display on a screen but the electronic equipment which can output voice, an oscillation, light, etc.

[0035] In order to input information for example, with an input pen etc., it not only uses especially the display of this invention in order to only display the information from record media, such as CD-ROM, but it includes the display used for the display of the actuation screen for operating the input pen, i.e., the display which can be used also as an input device.

[0036] Moreover, the display for displaying the information which is not restricted to the display unit which displays the information reproduced from a storage only like FD or CD-ROM, and is sent from a broadcast TV (television) station or a cable TV station is sufficient as this invention.

[0037] Moreover, although the CD-ROM driving gear 3 is made to build in a frame 1 in the 1st example shown especially in drawing 1, this is made to separate from frames 1 and 2, it considers as a separate unit, and you may make it send a signal to the signal processor 4 in a frame 1 by the wireless electric wave in this invention from the CD-ROM driving gear which is this separate unit.

[Translation done.]

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- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view showing the CD-ROM regenerative apparatus concerning the 1st example of this invention.

[Drawing 2] It is the top view showing the example of drawing 1 according to actuation.

[Drawing 3] It is the front view showing the CD-ROM regenerative apparatus concerning the 2nd example of this invention.

[Drawing 4] It is the top view showing the example of drawing 4 .

[Drawing 5] It is the top view showing the condition that the example of drawing 4 folded up.

[Drawing 6] It is the top view showing the 3rd example of this invention.

[Drawing 7] It is the top view showing the 4th example of this invention.

[Description of Notations]

1, 2, 11-20, 1a, 2a Frame

3 50 CD-ROM driving gear

4 51 Signal processor

5, 7, 21-30, 5a, 7a LCD screen (LCD panel)

6, 8, 31-40 LCD driving gear

9, 10, 9a, 10a Hinge (fastener)

[Translation done.]

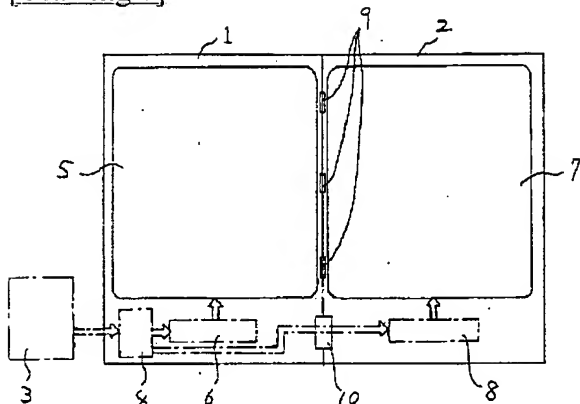
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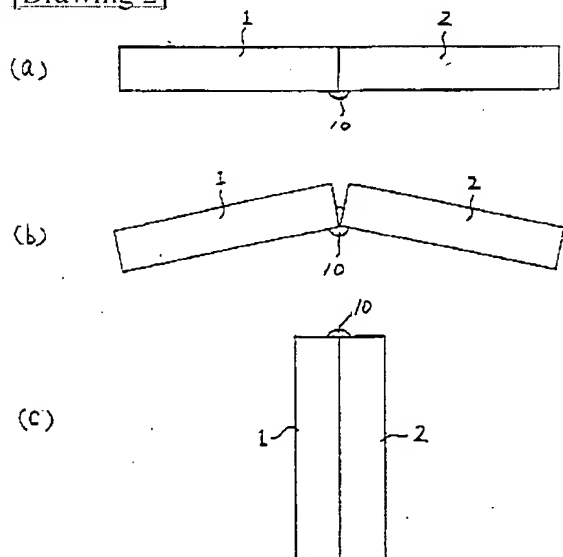
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DRAWINGS

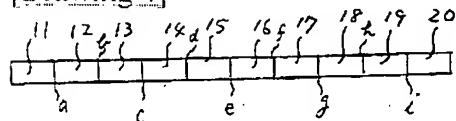
[Drawing 1]



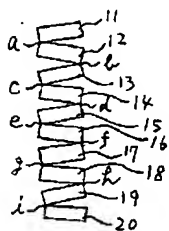
[Drawing 2]



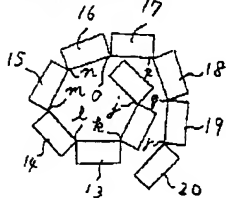
[Drawing 4]



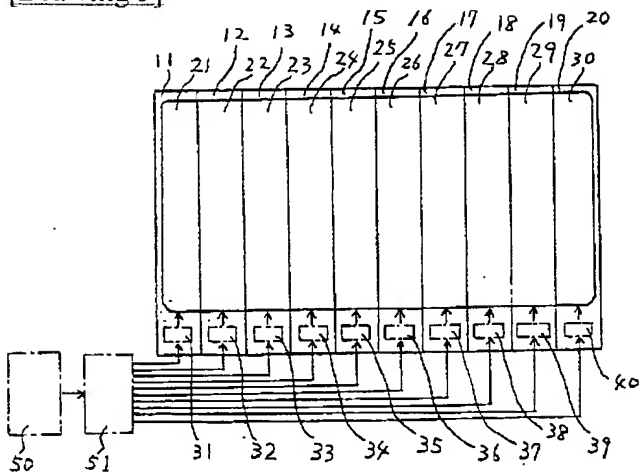
[Drawing 5]



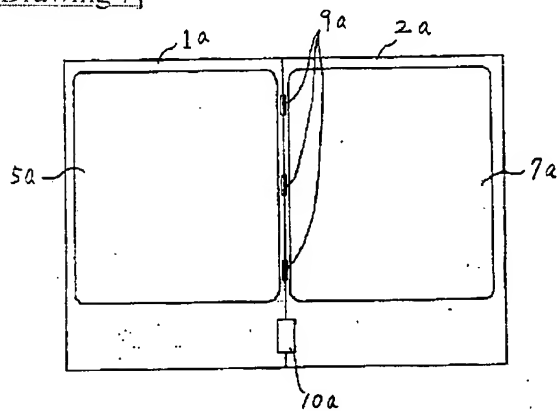
[Drawing 6]



[Drawing 3]



[Drawing 7]



[Translation done.]